





## VIII.

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### NARRATIVE OF A CASE

IN WHICH

### MALFORMATION OF THE PULMONARY VALVES

GAVE RISE TO

### REMARKABLE CARDIAC SOUNDS.

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(From Dr. Beale's '*Archives of Medicine*,' No. V, 1860.)

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At a meeting of the Medico-Chirurgical Society of Edinburgh on the 16th of November, 1859, Dr. Haldane, Pathologist to the Royal Infirmary, exhibited a heart which had been removed by him from the body of a patient on the 14th of the same month. In examining this heart, the valves of the pulmonary artery were tested by a stream of water, and were found to be slightly incompetent. There were four valves, three of about the ordinary size, the fourth much smaller than the others, and imperfectly separated from one of them. The other valves of the heart were healthy, and the organ was of its natural dimensions.<sup>1</sup> The heart, the description of the abnormal appearances in which I have given very nearly in Dr. Haldane's words, was that of a young man, who for a period of nearly three years had been under my observation, whom I had, times without number, occasionally alone, more frequently in the presence of a clinical class in the Infirmary, examined; and from the date of the first examination, at the commencement

<sup>1</sup> "Proceedings of Medico-Chirurgical Society," '*Edinburgh Medical Journal*,' December, 1859.

of 1857, had believed to labour under some abnormal condition of the arterial valves on the right side of the heart.

W. W—, æt. 18, consulted me in the very early part of 1857, chiefly on account of a slight degree of difficulty in breathing, aggravated on making any forced exertion. In reply to my careful inquiry he stated that he had always considered himself to be "touched" in the breathing, having observed, from his earliest recollection, that he could not run with the same facility as other boys, and that on lifting heavy weights he was very soon fatigued and caused to "pant."

At eighteen, when I first saw the patient, he had no appearance of suffering from bad health, was then able for the duties of a light porter, and admitted that he applied for medical advice from no feeling of increase in the difficulty of breathing and slight palpitation which from boyhood he had suffered, but in the hope that his old symptoms might be subdued.

When W—, removed his clothes to permit a careful examination of the chest, I was struck by the peculiar appearance of the right arm; it was much shorter and thinner than the left, a condition which he stated had existed from birth. The left arm was well developed. He was, it is scarcely necessary to add, left-handed. On inspection of the chest a more ample clothing by the pectoral muscles over the left than the right front was at once apparent. Besides this, there existed a decided prominence in the cardiac region. Impulse of the heart, without being decidedly exaggerated, was readily appreciable. Rhythm of heart natural. Apex beat was detected in the normal situation, and there existed no increase of precardial dulness. A very decided thrill accompanied the systolic action of the heart, when the hand was applied over the base. On more careful examination, the thrill was found to be almost entirely limited to the situation in which a loud systolic murmur was heard with the greatest degree of intensity. That was at the left border of the sternum, over the cartilage of the third rib. The systolic murmur thus distinguished was blowing in character and of an unusual loudness; in the same situation it was followed by a diastolic murmur of much less intensity.

The systolic murmur was readily distinguished over the whole upper part of the chest, but with much facility the seat of its greatest intensity was determined to be that already indicated.

The diastolic murmur was limited or almost limited to the same situation. Over the aortic valves something like the normal second sound was from time to time audible. The loud systolic murmur was not propagated in the course of the systemic circulation, for though loudly heard over the upper sternum, it was scarcely appreciable in the carotids. The radial as well as other superficial pulses were normal, no jerking character or trace of visibility distinguished them. The strength of pulse good, average frequency 74. Respiratory murmur of both lungs was feeble, otherwise unaltered. Patient had never suffered from rheumatism, had never spat blood, had little or no cough, and no expectoration. Complained occasionally of drowsiness. Had no appearance of lividity of the countenance. Subsequent to this, my first examination, he was on three occasions under my care in the Infirmary, once in 1857, and twice in 1858. Repeatedly examined, the physical signs underwent no change, so that in the notes of his case I frequently find this remark, "physical signs precisely as before." The slight breathlessness he suffered was always relieved by the care and comfort of hospital residence, and the palpitation, which seemed in great degree functional, was always mitigated by attention to the state of the bowels, proper regulation of diet, and on one or two occasions, when more severe and lasting than usual, by the application of a belladonna plaster. By iron and henbane, which he took for a lengthened period, both when in the hospital and out of it, he stated that he always felt himself benefited.

He left the Infirmary for the last time on the 5th of October, 1858. I had then been successful in obtaining employment for him of a light nature; at this he continued for a considerable period. I saw him frequently thereafter; there was up to the very last occasion on which I accidentally met him in the early summer of 1859, no change in his appearance, and he always expressed himself as feeling as well as on any former occasion. For several months I had not seen him, when on Sunday the 13th of November, on visiting the Infirmary, I was startled by the announcement from the nurse—under whose charge in the hospital he had been on the occasions alluded to in this narrative—that his body was then lying in the dead-house. On inquiry I was grieved to learn that during the afternoon of the



preceding Friday, when in a state of intoxication—to habits of which he had only lately become abandoned—he had fallen down a stair and had been brought to the surgical hospital, where, upon examination an extensive fracture at the base of the skull was detected. He died the same evening in a state of complete insensibility. It was in the performance of the post-mortem examination to determine the precise nature of the injury of the head, that the opportunity occurred for observing the state of the heart.

This interesting case may be almost left without any comments, on one or two points only I am tempted to make a few remarks :

1. The physical signs seemed to me from the very first examination to indicate a lesion of the pulmonary valves, one which offered some obstruction to the flow of the blood outwards from the ventricle, and at the same time permitted the reflux of blood backwards to a limited extent. The obstruction I argued could not be very great, as there existed no evidence of hypertrophy of the right ventricle, nor any signs of imperfect supply of blood to the lungs. The loudness of the systolic murmur seemed to bear out the doctrine of Dr. Hope, that pulmonary murmurs, from the greater nearness of the pulmonary artery to the surface of the chest, are likely to be louder than aortic murmurs. Equally strong indications of the pulmonary origin of the murmurs, as the precise situation in which they were most clearly heard, were the want of propagation in the aortic and large vessels, or along the sternum, and the absence of any peculiarity in the superficial pulses. The incompetency of the pulmonary valves I considered to be only to a limited extent, from the faint character of the diastolic murmur and the absence of any marked pulmonary symptoms.

2. The history of the patient's case, the fact very specially, that throughout life his breathing had been slightly affected ; that he had never suffered from rheumatism, and his appearance, with the shortened right arm, made it not improbable that the cardiac lesion whatever it might be was of foetal origin.

3. Lastly, the absence of any other form of valvular disease, in this case, may reasonably be considered as having materially simplified the diagnosis, though its interest cannot be considered as on that account in any degree diminished.



